



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,933	05/25/2005	Shigeyuki Iwasa	Q85489	5310

23373 7590 06/15/2007
SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

RUTHKOSKY, MARK

ART UNIT	PAPER NUMBER
----------	--------------

1745

MAIL DATE	DELIVERY MODE
-----------	---------------

06/15/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/519,933	Applicant(s) IWASA ET AL.	
	Examiner Mark Ruthkosky	Art Unit 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The rejection of claims 4-6 under 35 U.S.C. 112, second paragraph, has been overcome by applicant's amendment to the claims.

Claim Rejections - 35 USC § 102

The rejection of claims 1-12 under 35 U.S.C. 102(b) as being anticipated by Nakahara et al. (WO 02/082570) has been overcome by applicant's amendment to the claims.

The rejection of claims 1-12 under 35 U.S.C. 102(b) as being anticipated by Sato et al. (JP 2002-117854) has been overcome by applicant's amendment to the claims.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Art Unit: 1745

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-12 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,866,964. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims read upon the broad structure claimed in U.S. Patent No. 6,866,964.

Information Disclosure Statement

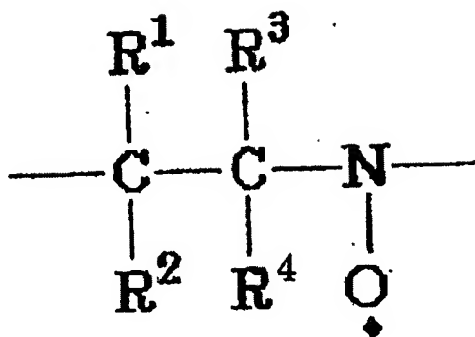
It is noted that of U.S. Patent No. 6,866,964 should have been included on applicant's information disclosure statement. The examiner requests that applicant's prior art and publications pertaining to this invention that include N-O radicals, be set forth on the record and fully disclosed as required by MPEP 609 & 2004.

Allowable Subject Matter

The following is a statement of reasons for the indication of allowable subject matter. The double patenting rejection described above is noted. Due to this rejection, the claims are not allowed, however, the claims do include allowable subject matter.

The instant claims are to a secondary battery comprising at least a positive electrode, a negative electrode, and an electrolyte, wherein at least one of the positive electrode and the negative electrode comprises a polymer having a repeating unit represented by formula (1) as an active material;

Art Unit: 1745



According to formula (1), R1, R2, R3 and R4 each independently represents a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted aromatic hydrocarbon, a substituted or unsubstituted hetroaromatic group, a halogen atom, or an alkylene group that may be coupled to at least one or both of R1 and R3, and R2 and R4 to form a ring. The prior art does not teach a secondary battery having at least a positive electrode, a negative electrode, and an electrolyte, wherein the secondary battery an active material of the positive electrode and the negative electrode having a repeating unit represented by the formula, as claimed.

The most pertinent prior art has been made of record. Nakahara et al. (WO 02/082570) teaches a secondary battery having at least a positive electrode, a negative electrode, and an electrolyte, wherein the secondary battery includes a positive electrode of a polymer having an active material of at least one of the positive electrode and the negative electrode including the claimed functional moiety, wherein R1, R2, R3 and R4 each independently represents hydrogen atom, substituted or unsubstituted alkyl group, substituted or unsubstituted aromatic hydrocarbons, substituted or unsubstituted hetroaromatic groups, halogen atom, or alkylene group that may be coupled to the ring form at least one or both of R1 and R3, R2 and R4 (see the various formulae disclosed in the reference, for example on page 8.) The electrode may be used

Art Unit: 1745

in a lithium battery (pages 10-14.) The structure does not include the nitrogen atom in the backbone of the polymer as required by claim 1 and thus, the polymer is a different structure than taught in the prior art.

Sato et al. (JP 2002-117854) teaches a secondary battery having at least a positive electrode, a negative electrode, and an electrolyte, wherein the secondary battery includes a positive electrode of a polymer having a repeating unit represented by formula (1) as an active material of at least one of the positive electrode and the negative electrode, wherein R1, R2, R3 and R4 each independently represents hydrogen atom, substituted or unsubstituted alkyl group, substituted or unsubstituted aromatic hydrocarbons, substituted or unsubstituted hetroaromatic groups, halogen atom, or alkylene group that may be coupled to the ring form at least one or both of R1 and R3, R2 and R4 (see the various formulae disclosed in the reference, for example figures 5-7 in paragraph 34 and paragraph 36.) The electrode may be used in a lithium battery (p. 39-45.) The structure does not include the nitrogen atom in the backbone of the polymer as required by claim 1 and thus, the polymer is a different structure than taught in the prior art.

As the prior art does not teach a secondary battery comprising at least a positive electrode, a negative electrode, and an electrolyte, wherein at least one of the positive electrode and the negative electrode comprises a polymer having a repeating unit represented by formula (1) as an active material, the claims include this allowable subject matter.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Ruthkosky whose telephone number is 571-272-1291. The examiner can normally be reached on FLEX schedule (generally, Monday-Thursday from 9:00-6:30.) If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached at 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications


Art Unit: 1745

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free.)

Mark Ruthkosky

Primary Patent Examiner

Art Unit 1745

 6.9.07